A Well Planned Farmhouse.

To the Editor FARMER'S ADVOCATE

Accompanying the renewal of my subscription to your most valuable paper, you will find enclosed the photo and plans of a farmhouse, which we hope may be of use to some of your readers. The kitchen is not yet built, but the actual cost of the part built and the estimated cost of the kitchen is about $1,800.

Middlesex Co., Ont. DAVID PENNINGTON.

EXTERIOR VIEW OF RESIDENCE OF MR. DAVID PENNINGTON, MIDDLESEX CO., ONT.

The Round Concrete Silo.

To the Editor FARMER'S ADVOCATE:

SIR,—In your issue of Feb. 1st, a letter appeared from Mr. A. E. Hodgert, on how to build a round concrete silo. His instruction was all right so far as it went, but did not convey to your readers a very clear idea how to go to work to build one. At least, I met some parties who read and could not understand what these rings were that he spoke of. Perhaps, if we would call them circular curbs they would be more easily understood. Now, if a man is living in a locality where there is no one engaged in building them, there is no reason why he could not go to work and build his own by simply following instruction. I think enough has been written on mixing the concrete. Now I will try to give you an idea how we built our silo, and what it cost. We have the first round silo built in this locality, and, being an experiment, we tried to build it as cheaply as possible. The curbs we used were made of rough hemlock, and cost $10, Of course, we had just a single set, and had to raise them every time as soon as they were filled. The set we have now are made of dressed pine, and cost $41. The inside ones are hinged at three of the joints, and the fourth joint is where we draw it together for raising, and we put a piece of sheet iron over this joint. When it is set for building, this joint is spread far enough so that when slackened it allows one end of curb to go in past the other for raising. There is a band around the top of each curb, on the inside, projecting ½ inch above the edge of rim for the next curb to fit inside of, to keep them even. The outside rim is made on the same principle, but they are connected by rods with thumb-nuts for drawing them together. We fill in the space between sections with inch pieces, and take one out every time we raise, but we have a tapered piece in each joint that stays in all the time to keep the top of the rim tipped in to give the wall the proper bevel. The doors are made by building in a jamb, then taking it out as soon as the cement sets. The jamb is made two inches smaller at the outside than the inside, and has a 2x2 piece all the way around on the outside of jamb, and on the inside of wall, so that when the jamb is taken out it leaves a 2x2 groove in concrete for the door to fit into. The doors are made of two thicknesses of matched pine with tar paper between. We used 47 bbls. of Thorold cement for building, flooring and plastering silo, 27 yards gravel, and ½ yard fine sand. The hoops cost $2. So that will give each of your readers an idea what it will cost in his locality. Now there is the question of roofing. I know two different men who have put on steel roofs at a cost of $20 apiece. If I remember correctly, you stated in your paper last spring that a roof was an injury to a silo. If this is correct, I would like you to give your reason for saying so, as it might be the means of saving a good lot of money to those of your readers who intend building in the future.

Before closing, I might say that for elevating the concrete we use a sort of crane, and draw it up in wheelbarrows with a horse. The silo is generally built beside a barn or stable. Take a pole five or six feet longer than the height of highest scaffold, set bottom end close to barn, and chain the top end far enough out so that when the barrow is raised the pole will swing around onto the scaffold. Have a pulley at top and one at bottom of pole, and to end of your raising rope attach a chain or sling rope with a hook to catch the wheel and a loop to go on each handle of barrow. When the barrows are raised they can be wheeled to wherever needed. I see that I have forgotten to give the size of our silo. It is 11½ feet in diameter, and 30 feet high. The wall is 9 in. at the bottom and 5 at top, and I know of twelve different ones built the same, and all standing first-rate, so I see no need for a heavier wall. We built in all the smaller stones we could, to have them bedded properly. Hoping this will be of some value to your readers,

Huron Co., Ont. CHAS. E. HACKNEY.

[NOTE.—The FARMER'S ADVOCATE never took the ground that a roof was an injury to a silo. It was generally concluded by many, for several years, that a roof on a stave silo was unnecessary, but experience has taught that the staying or bracing power of a roof gives it a value beyond its cost. We now believe that a silo should not be considered finished until it has a roof, but an expensive or elaborate roof on a stave silo is quite unnecessary. —EDITOR F. A.]

How to Make Gravel Walks.

It is not necessary to dwell upon the comfort derived from having good walks leading from the house to the road, and to the various outbuildings. The most substantial walk is made of large flat stones, but in most parts of the country these are expensive. Gravel and small stones are usually more easily procured in most localities. It is best to haul the gravel and deposit it near where it is needed before the trench is dug. Whether it is obtained from a lake, stream, or gravel pit, the material should be screened beforehand, and all that will pass through a quarter-inch sceen should be rejected, Gravel may look clean and free from dirt, but the operation of screening shows that appearances are deceptive. A common footpath should be not less than three feet in width, and before excavating it should be laid out by a line. For a permanent walk, the trench should be at least twenty inches in depth. A section of walk is shown in Fig. 1. The bottom is filled with large cobble-stones or other stones, as is convenient, and at least you should have eight inches of gravel on top. The greatest care must be exercised to prevent earth from mixing with the gravel, or in a few years grass and weeds will grow up through the walk. To prevent this, flat stones may be placed along the side of the trench. These form a perfect barrier between the gravel and the bank. Sometimes a walk must be laid through springy or water-soaked soil. In this case, it will be advisable to lay a drain at the bottom of the trench, observing that it has a proper outlet at some convenient point. In a walk three feet wide, the middle should be two inches higher than the sides. Unless the walk is

CROSS SECTION OF GRAVEL WALK.

built through stiff sod, it is best to remove a little earth along the sides, and replace with a ribbon of sod six to eight inches wide. Clip this edging as often as you see it requires it, and when necessary, pass along the edge of the walk and remove any grass that has encroached upon the gravel. Should weeds appear in the walk, remove the gravel three or four inches deep, and extirpate the trespasser with an application of common salt, strong lye or anything that will destroy plant life. J. R. B.

Sub-surface Entrance of Fresh Air to Stables.

To the Editor FARMER'S ADVOCATE:

SIR,—I will give you my experience *re* ventilation of stable. My barn is 52 by 92 feet; height of basement, 9 feet. My cattle stalls are placed across the short way (or the 52 ft.), and under the feed alleys I have 8-inch tile running the entire length and through the south walls. About one foot from surface (one side only) I have gas pipe inserted into tile opposite every stall (double), which project over the parting block in the feed manger. There is concrete floor laid over tile and pipes in alleys. For ventilating shafts, I find that the small shaft, say 4 by 8 inches, running up posts of barn, are much better than larger ones, as there are no down drafts and no dampness or frost attaching to them to fall down in mild weather, and they draw better.

I find this system the most perfect. There is always a small current of fresh air tempered coming through the tile and coming out of small pipe just where it is wanted—at the animals' noses—which current of air is sufficient to lift the foul breath of cattle and send it up ventilating shaft, yet without any cold air on the cattle. You are unable to smell the odor from feeding turnips in my stables at any time. I stable from 40 to 50 head of cattle, besides other stock. I have about twelve shafts, with covers on top, so I can close any or all of them if necessary. The shafts are about 16 feet long from ceiling of stable. I would advise two through roof. I have tile in my stables continue through under my root bins, with ventilation, which works very successfully. One can bore hole in tile for gas pipe with an ordinary bit.

Simcoe Co., Ont. D. K. ROSS.

P. S.—Temperature never varies five degrees with this system —D. K. R.

Farmers' Institute Field Notes.

BY THE SUPERINTENDENT.

If it be true that experience is the best teacher, it would follow that the older a man becomes, the greater the fund of information which he possesses. In the Farmers' Institute work, as in everything else, we should, then, look for much wisdom from those who have been longest in the work and have learned from experience the things whereof they speak. The oldest man on our staff is Mr. John McMillan, of South Huron. At a recent meeting in South Wellington, Mr. McMillan introduced the subject of

ROTATION OF CROPS AND SOIL CULTIVATION.

"I follow a three years' rotation," said Mr. McMillan, "consisting of clover, roots or corn, and grain. We do not plow nearly as much as we used to, for we find it not only a great waste of time, but also of little profit. Instead of so much plowing, we substitute frequent surface cultivation, and although our land is heavy clay, we find that once in three years is quite enough for using the plow." In answer to a question, "How often do you cultivate?" Mr. McMillan replied that he went over his corn and root ground once and sometimes twice every week while the crop was growing. "At least," said he, "so long as we can get between the rows. And this is not for the purpose of destroying or checking the weeds, either, for we have none, but the cultivation is to preserve a soil mulch on the surface, in order that the moisture of the soil may not evaporate, but may be kept in the soil for the use of the growing crop."

GROW GRAIN FOR STOCK FOOD ONLY.

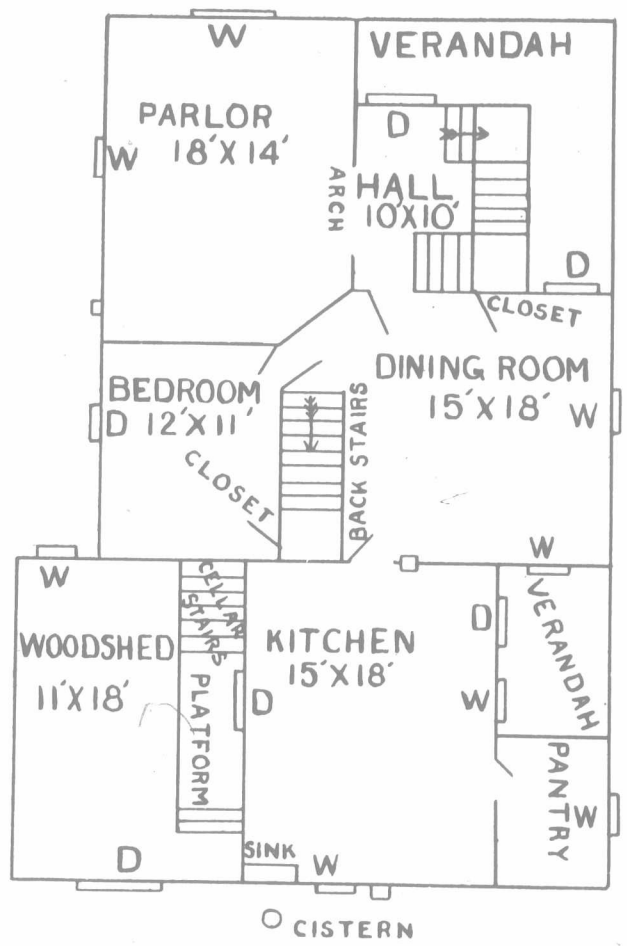
"I have quit selling grain entirely, and at the same time have stopped sowing one kind of grain by itself," said Mr. McMillan. "I prefer a mixture of oats, two-rowed barley and wheat. This gives me a better yield than any one kind of grain would do. In 1899, on my heavy land, I had an average crop of 90 bushels per acre, and in 1900 nearly 70."

PLOWING LAND ONCE ONLY IN THREE YEARS.

Someone asked: "If you only plow once in three years, where does it come in in your rotation?" Mr. McMillan replied: "I plow my clover sod in the fall, to a depth of about 8 inches, throwing it well up in the ridges, so that it may be thoroughly exposed to the action of the frost."

Another question: "With your heavy clay soil, do you not find that in plowing only once in three years there is a tendency for the subsoil to become hard and compact and impervious to water?"

Mr. McMillan.—"I have not found it so. For one reason, when we do plow, as I said, we go down a depth of about 8 inches. Again, our land is thoroughly underdrained, and is therefore more open and loose."



GROUND-FLOOR PLAN OF D. PENNINGTON'S HOUSE.

(Second-floor and basement plans, next page.)

Question—"If your land were not well drained, what would you do?"

Mr. McMillan—"I should use a subsoil plow, thus loosening the ground below, but bringing none of the poor soil to the surface."

UNDERDRAINING.

Question—"To what depth do you lay the tile for your drain, and how far apart do you put them in the field?"

Mr. McMillan—"On our clay soil, I am convinced it would be useless to lay the tile more than 2 feet deep. Our practice is to lay the tile from 20 inches